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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN THOMAS HARE

Appeal 2009-003765
Application 08/793,416
Technology Center 3600

Decided: October 27, 2009

Before: WILLIAM F. PATE, III, JENNIFER D. BAHR, and STEVEN D.A.
McCARTHY, *Administrative Patent Judges.*

BAHR, *Administrative Patent Judge.*

DECISION ON APPEAL

STATEMENT OF THE CASE

John Thomas Hare (Appellant) appeals under 35 U.S.C. § 134 (2002) from the Examiner's decision rejecting claims 20-26. Claims 1-19 and 27-29 have been canceled. Claims 30-38 have been withdrawn from consideration by the Examiner. We have jurisdiction over this appeal under 35 U.S.C. § 6 (2002).

The Invention

Appellant's claimed invention is directed to a radiation shielding device. The shield is generally in the shape of a tube 2 with a longitudinal slit 4 that allows tube 2 to be placed over a pipe. Spec. 6. The slit 4 is angled such as to provide unbroken protection over the pipe. Spec. 7:3-6, fig. 2.

Claim 20, reproduced below, is illustrative of the claimed invention.

20. A moulded shield for a source of γ -rays,
comprising:

a resilient, cylindrical shield body having a cavity shaped and dimensioned to receive the source, the shield body being in the form of a cylindrical annulus including an inner face, an outer face and a longitudinal slit, wherein the shield body may be selectively opened along the slit so that the shield body can be pushed over a pipe so as to permit the passage of the source into the cavity and subsequently closed, the slit extending from the inner face to the outer face at an oblique angle relative to the radius of the shield body and the slit is unsealed along its length to permit opening and closing thereof facilitating the passage of the source into the cavity;

the shield body further including a core layer of cured liquid silicone resin loaded with particulate γ radiation-shielding material adapted to surround a radiation source located in the cavity, the core layer being located between two outer layers of solid polymeric material.

The Rejection

The Examiner relies upon the following as evidence of unpatentability:

Weinberger	GB 954,594	Apr. 8, 1964
Noel	US 4,576,846	Mar. 18, 1986
Fry	US 4,748,060	May 31, 1988

Appellant seeks review of the Examiner's rejection under 35 U.S.C. § 103(a) of claims 20-26 as unpatentable over Weinberger and either Noel or and Fry.

SUMMARY OF DECISION

We AFFIRM.

ISSUE

Appellant argues that the Examiner has failed to identify a particular teaching, suggestion, or motivation to combine the references, and that the Examiner has failed to show a reasonable expectation of success for the proposed combination of Weinberger and either Noel or Fry. Appeal Br. 9-10. As such, the dispositive issue in this appeal is whether the Examiner has provided a reason with rational underpinning for combining the seam-sealing techniques in Fry or Noel with Weinberger's flexible legging with a

seam. Appellant argues claims 20-26 as a group. Thus, claims 21-26 stand or fall with representative claim 20. 37 C.F.R. § 41.37(c)(1)(vii) (2008).

FACTS PERTINENT TO THE ISSUES
(FINDINGS-OF-FACT (FF))

- FF1 The Examiner found that Weinberger describes a flexible shield for ionizing radiation, including γ rays, useable as leggings to protect a human being. Ans. 3. This finding, which is not challenged by Appellant, is supported by Weinberger, at page 1, lines 12-32.
- FF2 The Examiner found that Weinberger inherently describes that the shield has a cylindrical configuration with an annulus including an inner face and an outer face, because the shield is usable in leggings. Ans. 4. Appellant does not challenge this finding.
- FF3 The Examiner found that Weinberger inherently describes that the leggings have an unsealed slit along their length because otherwise the leggings could not be wrapped around a worker's leg. Ans. 4. Appellant does not specifically challenge this finding.
- FF4 The Examiner found that Weinberger fails to explicitly describe the slit being at an oblique angle relative to the radius of the shield body. Ans. 3.
- FF5 The Examiner found that Fry describes a flexible cylindrical covering that has a slit along its length, the slit sealable with an adhesive. Ans. 4. This finding is supported by Fry at column 1, lines 6-9.
- FF6 The Examiner found that Noel describes a flexible cylindrical covering with a slit and a groove-and-tongue sealing structure for the slit. Ans. 4.

- FF7 The Examiner found that Noel describes that the shape of the groove-and-tongue slit can be "of any desired shape" and can be "angular, round, oval, etc." Ans. 4. Indeed, Noel teaches that "[t]his slit can be of any desired shape" (col. 3, ll. 38-40) and "[o]ther appropriate overlap shapes are of course possible" (col. 5, ll. 60-61).
- FF8 The Examiner found that one of ordinary skill in the art would have understood that gamma rays would lose more energy when passing through an indirect, tortuous path than through a direct, straight path. Ans. 4-5. Appellant does not challenge this finding. Thus, it is undisputed that it was known in the art that an indirect path provides a safer path with better radiation shielding.
- FF9 The Examiner found that the teachings of Noel (*see* FF6-FF8) would give a person of ordinary skill in the art good reason to pursue the known option of a slit with an oblique angle relative to the radius. Ans. 5-6. Appellant does not challenge this finding.
- FF10 The Examiner found that both Fry and Noel describe solutions for the problem of sealing slits in cylindrical coverings in order to prevent thermal leakage. Ans. 5, 8, 9-10; *see also* Fry, col. 1, ll. 23-30 (article for pipe insulation); Noel, col. 1, ll. 5-8 (insulating tubes against the loss of heat or cold).
- FF11 Appellant's invention addresses the problem of how to reduce the leakage of energy from a slit in a pipe covering. Spec. 5, 7. Noel and Fry address the Appellant's problem because Noel and Fry are concerned with techniques for sealing slits in pipe coverings to prevent the exposure of the energy contained within the pipe to the ambient environment. *See* FF10.

PRINCIPLES OF LAW

While there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness, "the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

"A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." In other words, "familiar items may have obvious uses beyond their primary purposes."

In re ICON Health and Fitness, Inc., 496 F.3d 1374, 1379-80 (Fed. Cir. 2007) (citations omitted). Moreover, in making a determination with regard to obviousness, the inquiry is not limited to looking only at the problem Appellant was trying to solve. The question is not whether the combination was obvious to Appellant but whether it was obvious to a person of ordinary skill in the art. Thus, "[u]nder the correct analysis, any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *KSR*, 550 U.S. at 420.

Further, "if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill." *Id.* at 417.

Finally, when "there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp." *Id.* at 421.

ANALYSIS

The Examiner found, in relevant part, that Weinberger describes a cylindrical, flexible shield for ionizing radiation that can be wrapped around a person's legs and worn as leggings and that has an unsealed slit along its length. FF1-FF3. Appellant has not challenged these findings. The Examiner found that Weinberger fails to describe that, when the shield is wrapped around a leg as a legging, the slit is at an oblique angle relative to the radius of the shield body. FF4. Next, the Examiner found that Fry describes a flexible, cylindrical covering that has a slit along its length, with an adhesive for sealing the slit (FF5); and that Noel describes a flexible, cylindrical covering that has a slit along its length, with a tongue-and-groove system for sealing the slit (FF6). The Examiner also found that Noel describes that the slit can be of any shape, including angular (FF7), and that one of ordinary skill in the art would recognize that it is beneficial for radiation shields not to have a direct, straight path through the slit (FF8), and that such a beneficial arrangement would be provided by an obliquely-angled slit (FF9). Therefore, the Examiner concluded that it would have been obvious to modify Weinberger's shield, having a slit running along the length, with a seal having a slit extending at an oblique angle to the radius of the shield body, as described in Noel, for the purpose of providing better sealing and shielding. Ans. 5.

Appellant argues, in essence, that the Examiner's stated motivation for combination would not lead to the claimed invention, because it is tenuous. Appeal Br. 9-10. However, the Supreme Court has explicitly rejected the application of a rigid formula insisting on a teaching, suggestion, or motivation (TSM) to demonstrate obviousness. *See KSR*, 550 U.S. at 415 ("[w]e begin by rejecting the rigid [TSM] approach of the Court of Appeals."). Instead, "a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *Id.* at 418.

The Examiner articulates that the rationale for combining the leggings in Weinberger with the slit seals in Fry or Noel is to provide for "better sealing and better shielding." Ans. 5. The Examiner has, as discussed above, merely proposed to take a known technique (using oblique slits to prevent leakage) and to apply that technique to improve a device (Weinberger's leggings) in the same way (using oblique slits to prevent leakage), which would provide an expected result (better sealing and shielding). *See KSR*, 550 U.S. at 417, 421.

Appellant further argues that both Noel and Fry are concerned with pipe coverings, not human being coverings. Appeal Br. 9-10. This argument does not convince us that the Examiner erred in combining the teachings of these references with Weinberger. A person of ordinary skill, looking at a radiation shield such as that of Weinberger (which has a slit that could leak (FF3)), would naturally look to see how other shields seal their slits to prevent leaks. *See KSR*, 550 U.S. at 420; *ICON Health and Fitness*, 496 F.3d at 1379-80. As the Examiner found, the slit-sealing structures in Noel and Fry would be useful to solve the problem of how to seal the leggings described in Weinberger. FF10. Therefore, the leakage-preventing

structures of Noel and Fry would be analogous art for a person of ordinary skill considering the leggings of Weinberger because Noel and Fry offer a solution to a problem faced by Weinberger. *See KSR*, 550 U.S. at 420. Further, Noel and Fry address a problem faced by Appellant, that is, how to seal a slit to prevent leakage from a pipe. FF11. While Appellant may be concerned with preventing the leakage of gamma radiation and Noel and Fry may be concerned with preventing the leakage of thermal energy (which includes thermal radiation), all are concerned with techniques for sealing slits in pipe coverings to prevent the exposure of the energy contained within the pipe to the ambient environment. *Id.*

Appellant finally argues that Noel's and Fry's shields are used on "stationary" pipes as opposed to "mobile" human beings. Appeal Br. 9. This argument has more to do with the flexibility of the material of the shield than the configuration of the slit, however. A flexible shield's slits would bend just as well as the shield's material would allow. Appellant has not pointed to anything in Noel or Fry that would suggest that the slit configurations in Noel or Fry would not be suitable in a flexible shield. An attorney's arguments in a brief cannot take the place of evidence. *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974). Accordingly, Appellant has not convinced us that any differences between the shields, or coverings, of Noel and Fry, on the one hand, and the leggings of Weinberger, on the other hand, would have dissuaded a person of ordinary skill in the art from making the combination proposed by the Examiner.

CONCLUSIONS

Appellant has not shown that the Examiner failed to articulate reasoning with rational underpinning for combining the leggings in Weinberger with a slit seal as described in Fry and Noel. Therefore, Appellant has not persuaded us that the rejection of claim 20 should be reversed. Likewise, Appellant has not shown that the rejection of dependent claims 21-26, which stand or fall with claim 20, should be reversed.

DECISION

The Examiner's decision is affirmed as to claims 20-26.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED

hh

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